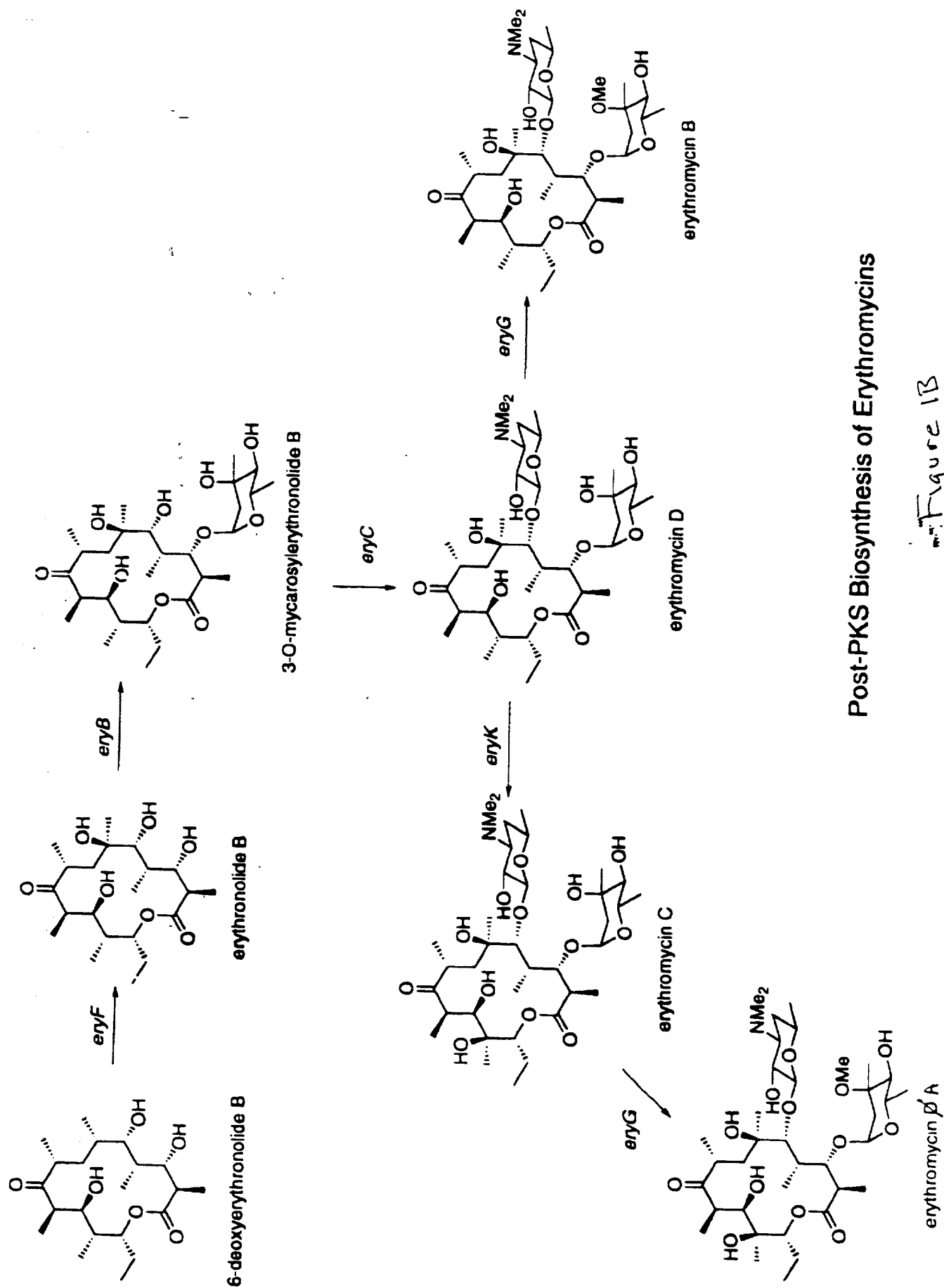
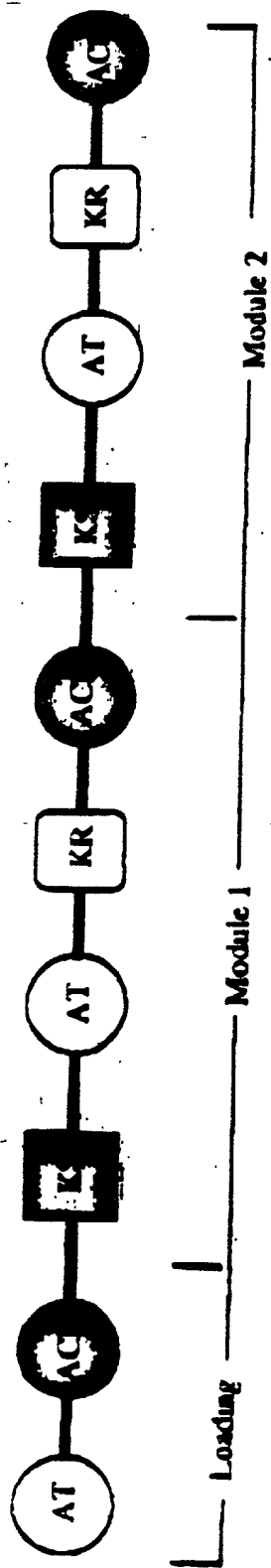


FIGURE 1A

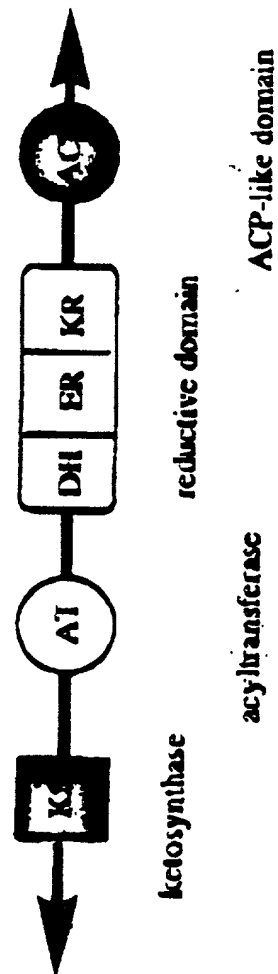


Post-PKS Biosynthesis of Erythromycins

Figure 1B

[illegible]

## Genetic Modular PKS



## FIGURE 2

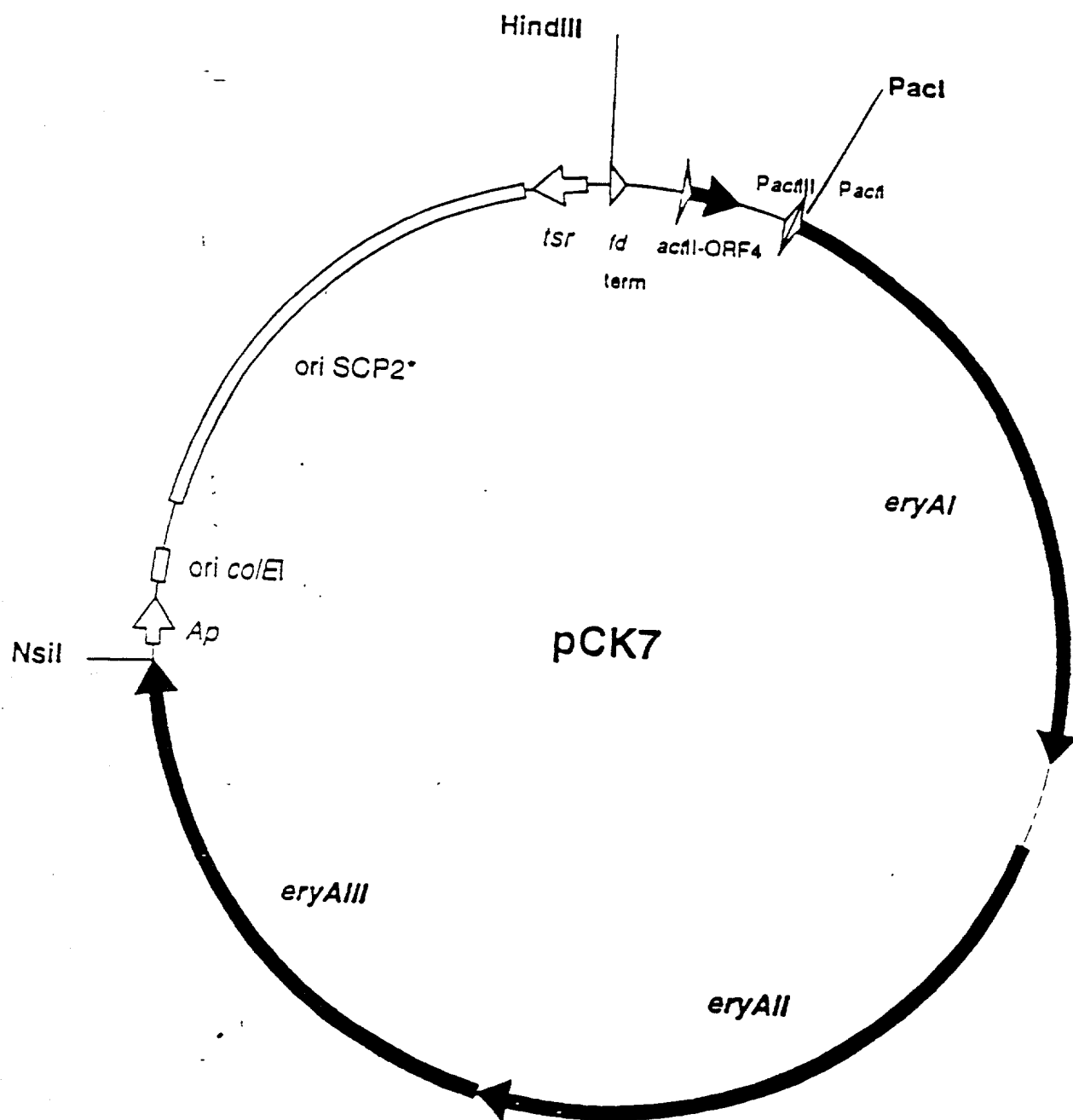
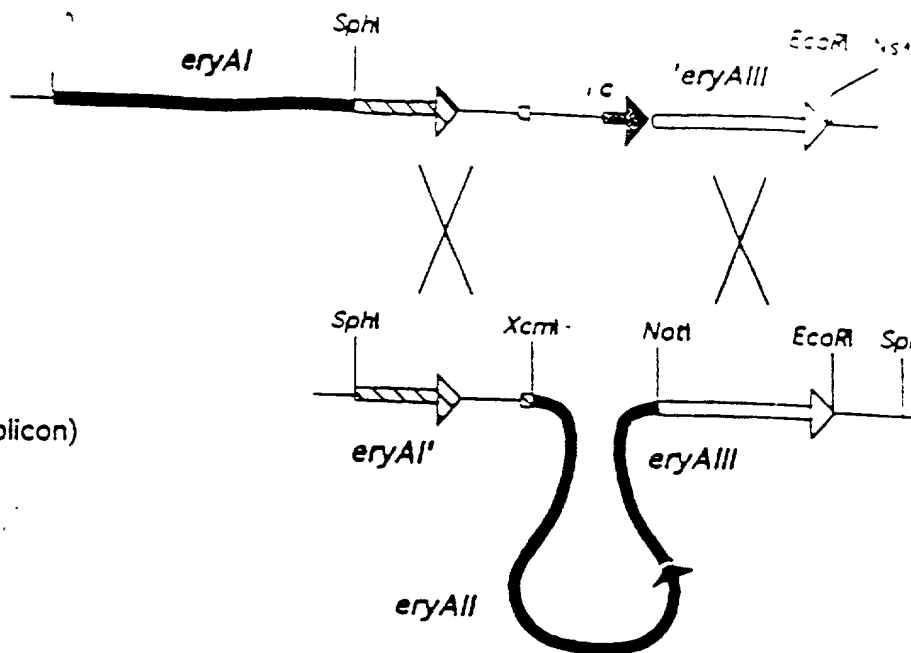


FIGURE 3

RECIPIENT: pCK5  
(Ap<sup>R</sup>, Tc<sup>R</sup>)



DONOR: pCK6  
(Cm<sup>R</sup>, temperature-sensitive replicon)

Ap<sup>R</sup>, Cm<sup>R</sup> @ 30°C

Ap<sup>R</sup>, Cm<sup>R</sup> @ 44°C

Ap<sup>R</sup> @ 30°C

Ap<sup>R</sup>, Cm<sup>S</sup>, Tc<sup>S</sup> @ 44°C

FIGURE 4

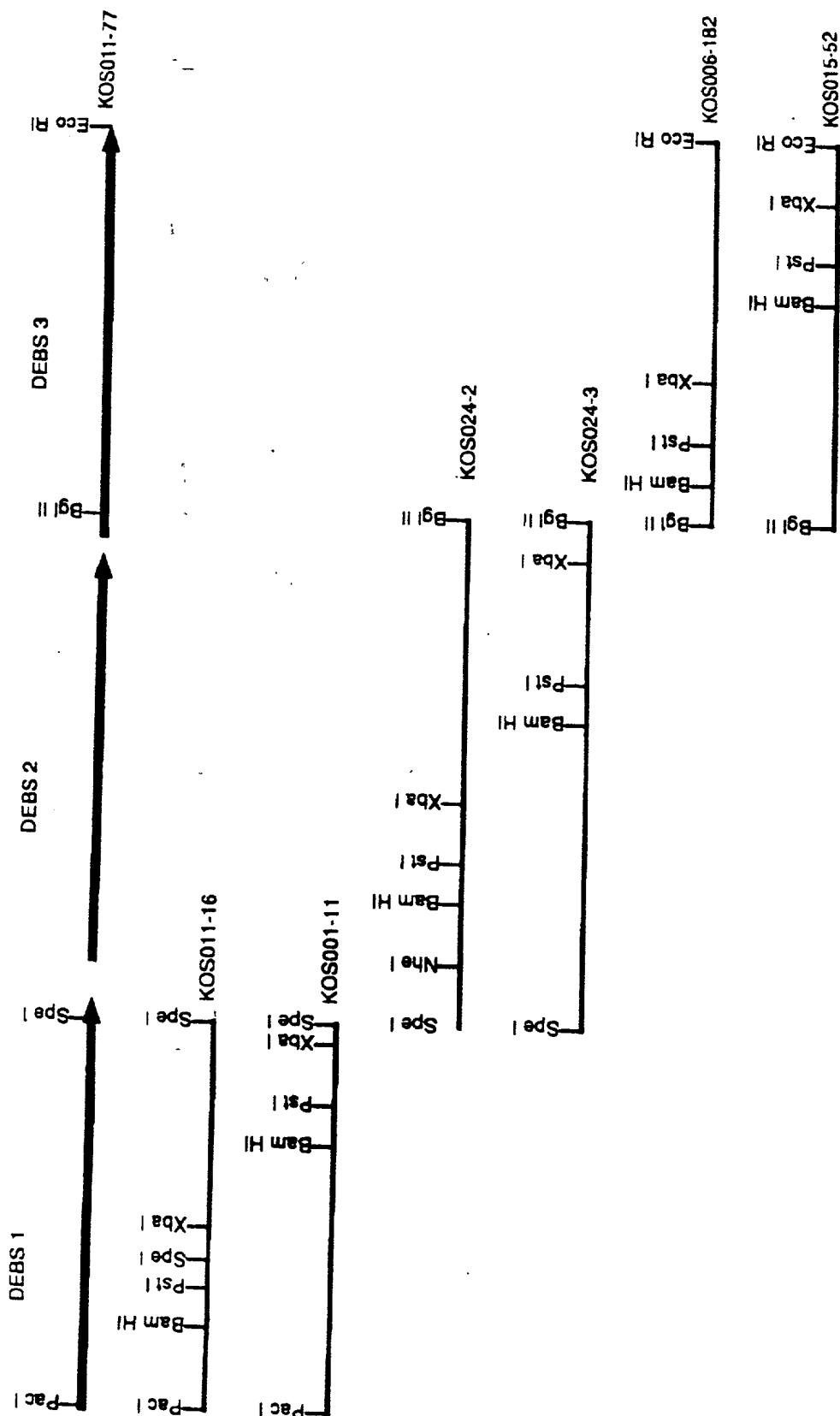


Figure 5

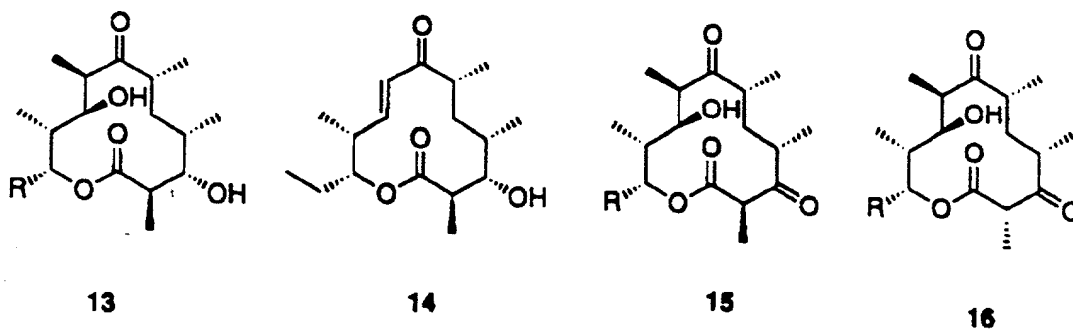
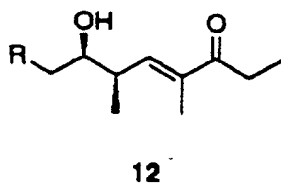
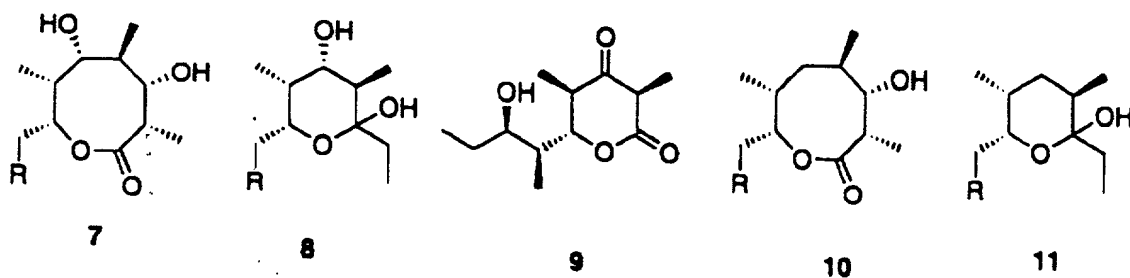
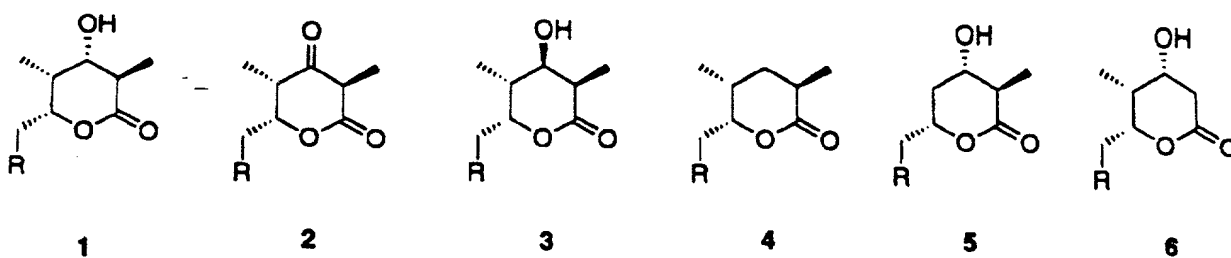


FIGURE 6A

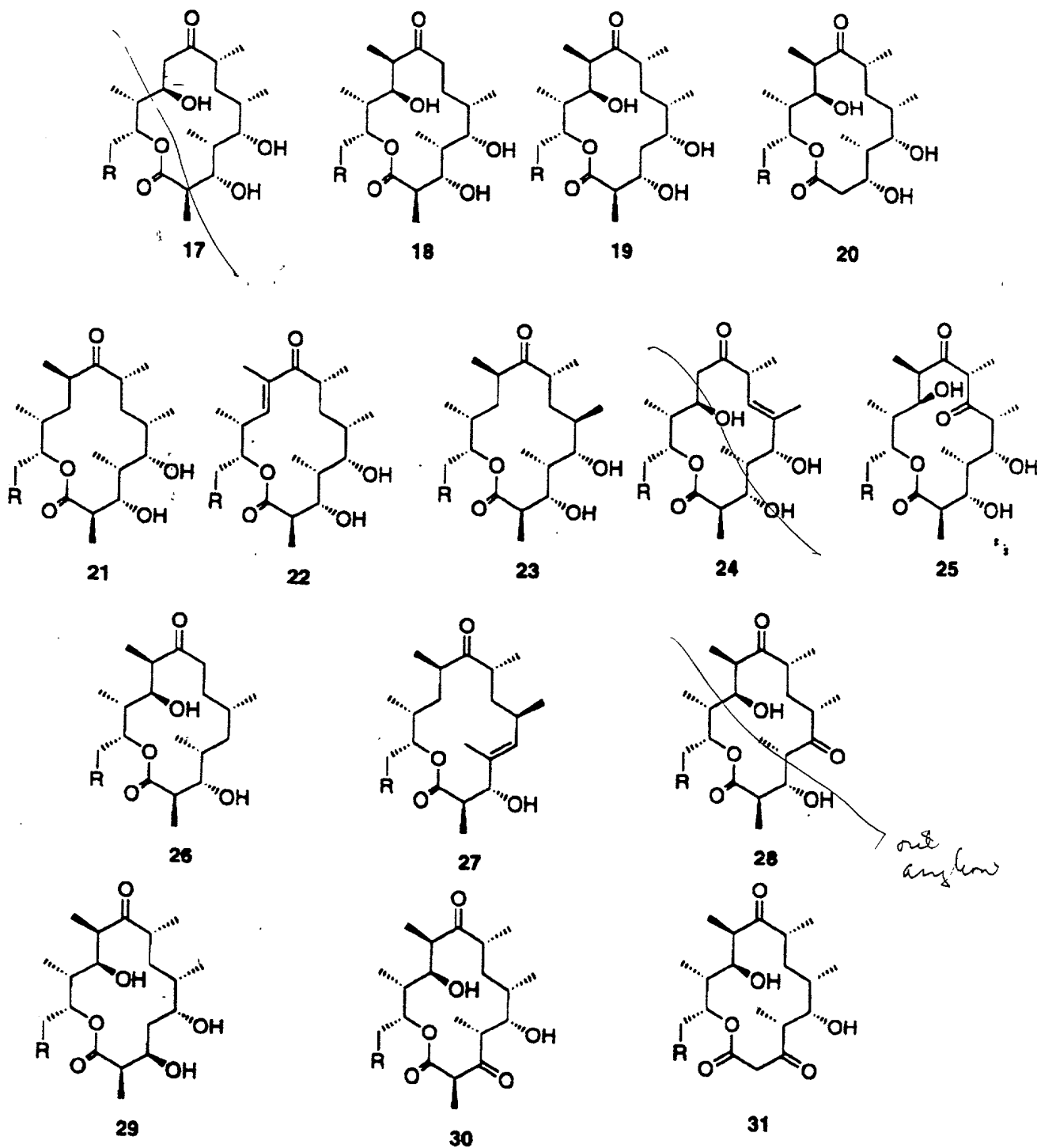


FIGURE 6B



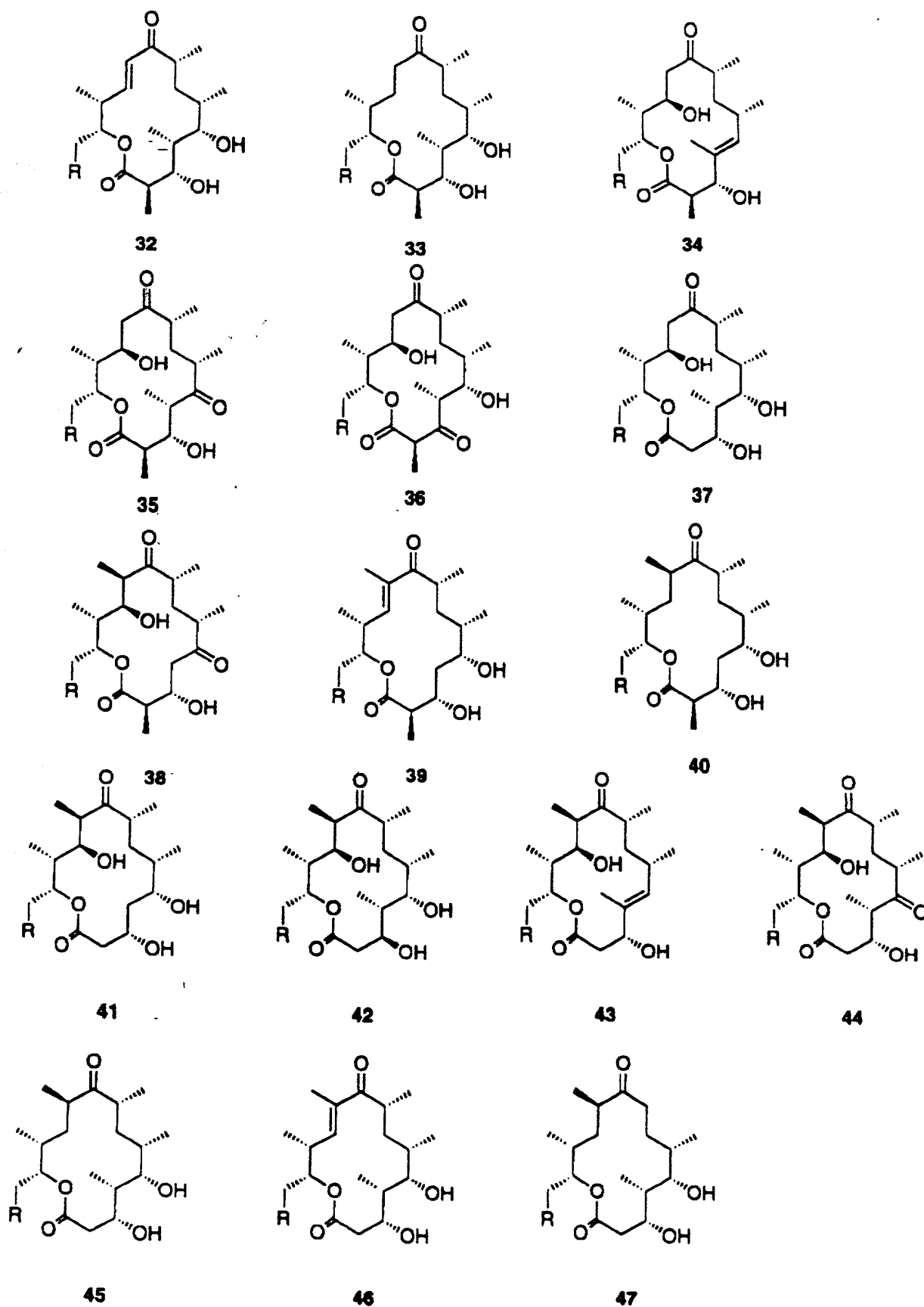
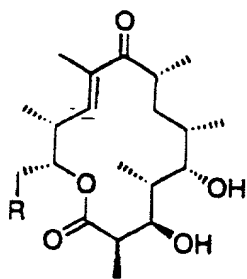
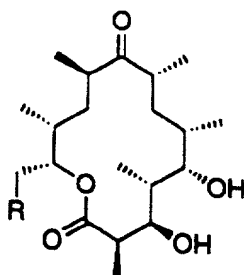


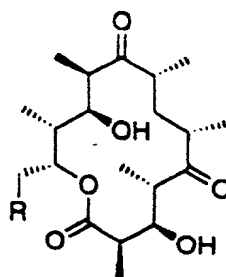
FIGURE 6C



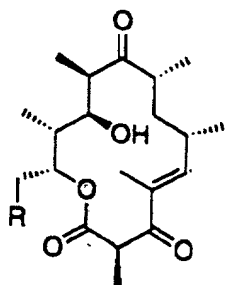
48



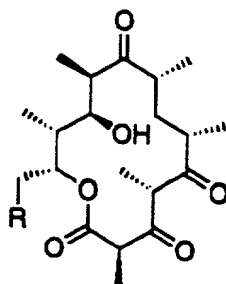
49



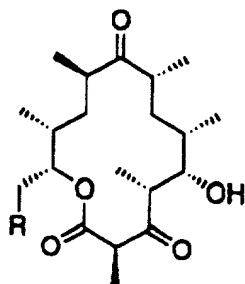
50



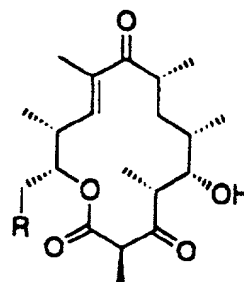
51



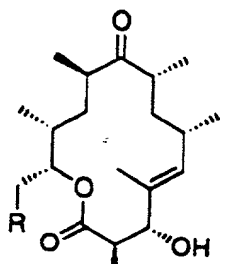
52



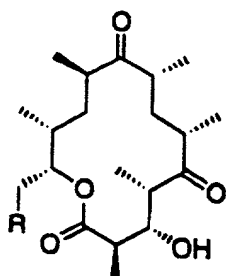
53



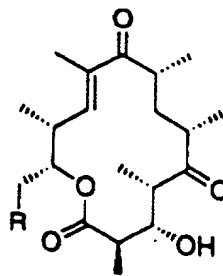
54



55

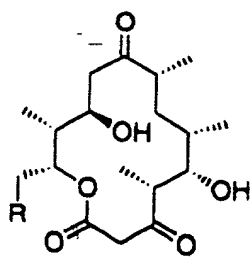


56

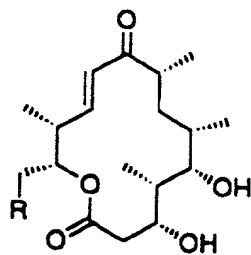


57

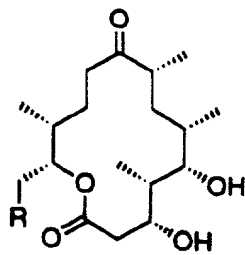
FIGURE 6D



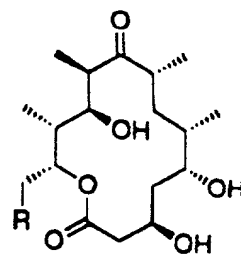
58



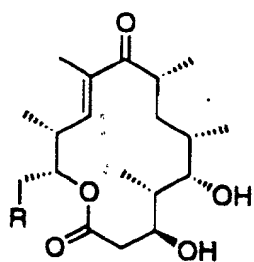
59



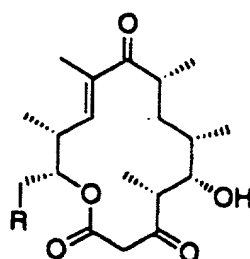
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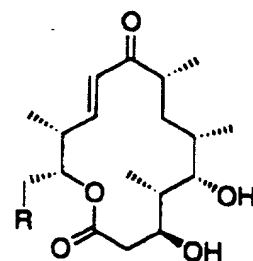
61



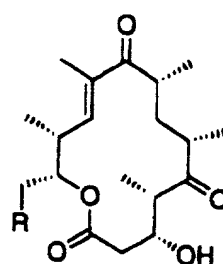
62



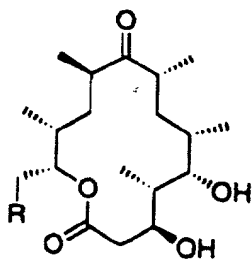
63



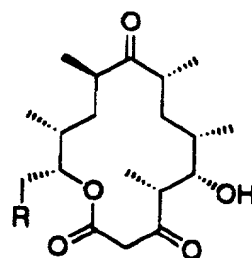
64



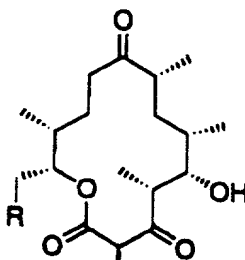
65



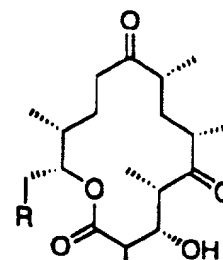
66



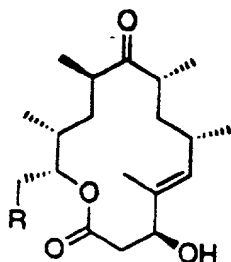
67



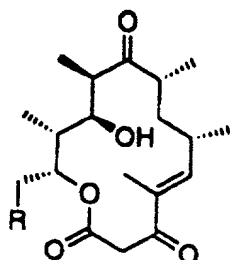
68



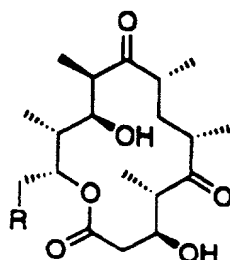
69



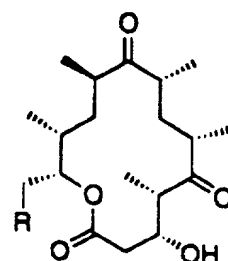
70



71

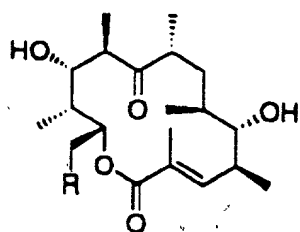


72

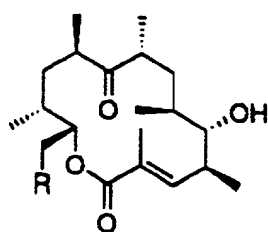


73

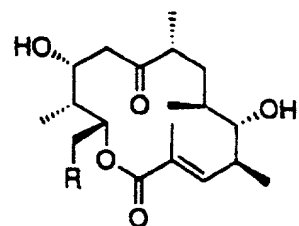
FIGURE 6E



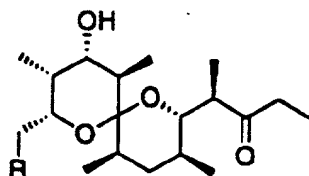
74



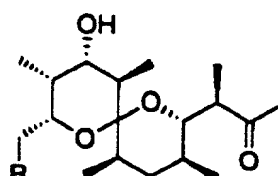
75



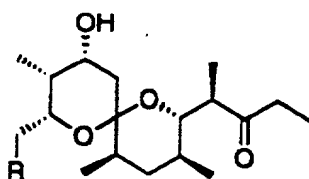
76



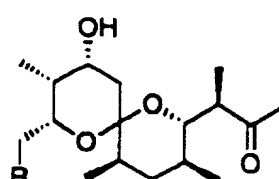
77



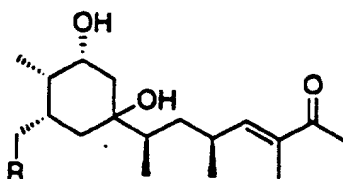
78



79

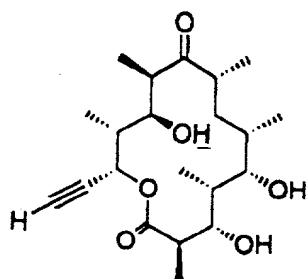


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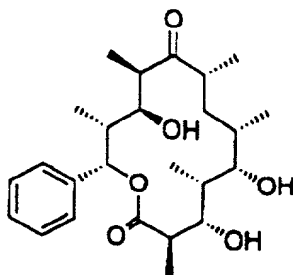


81

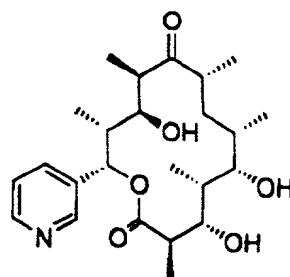
FIGURE 6F



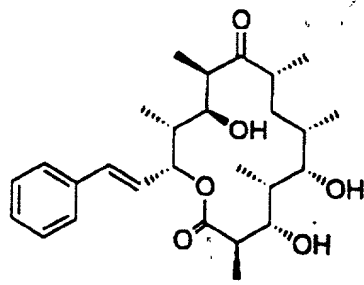
96



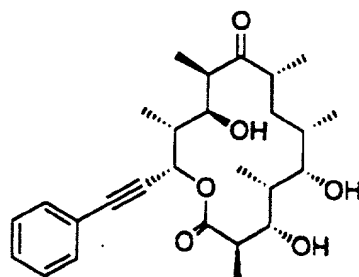
97



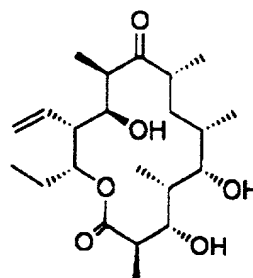
98



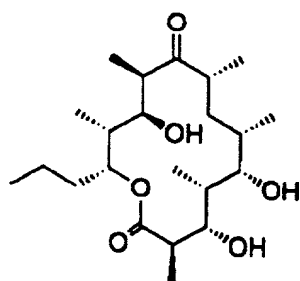
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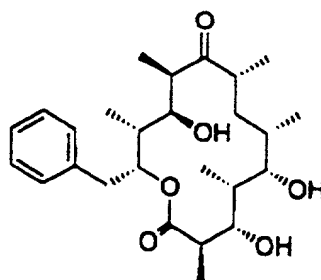
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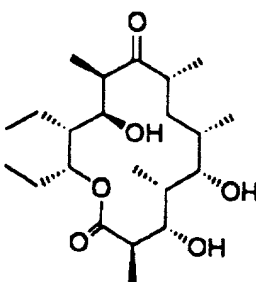
101



102

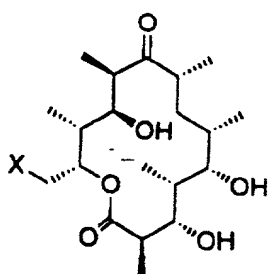


103

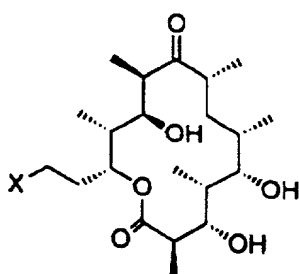


113

6G

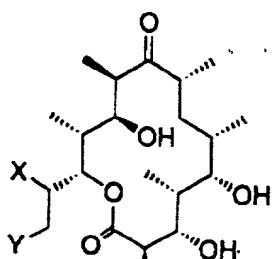


104



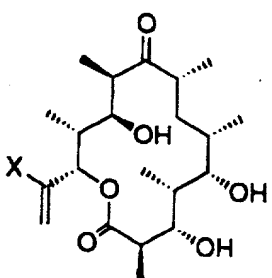
105

X = F, Cl, Br, N<sub>3</sub>, OH, O-alkyl,  
S-alkyl, CN, O-acyl, O-aryl,  
NH<sub>2</sub>, NH-alkyl, N(alkyl)<sub>2</sub>



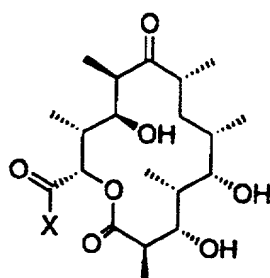
106

X = F; Y = H, Br, I, OH, O-alkyl, O-aryl, N<sub>3</sub>, CN, S-alkyl, S-aryl  
X = OH, Y = OH  
X,Y = -O-, -NH-, -NR-



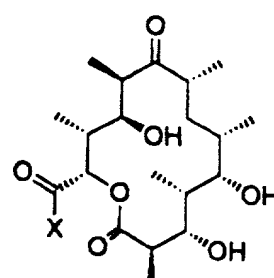
107

X = F, Cl, Br



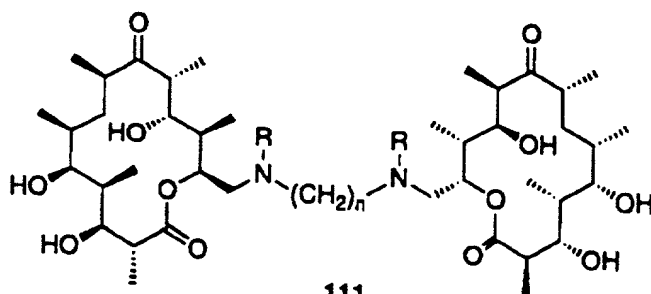
108: X=H

109: X=OH



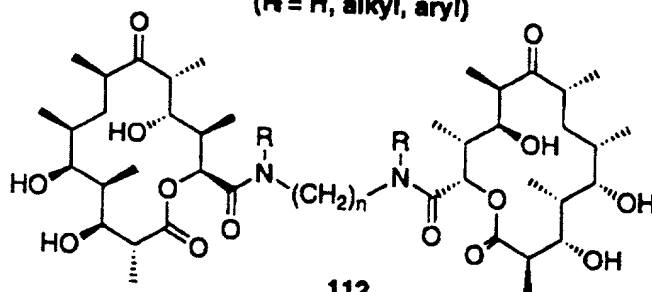
110

X = O-alkyl, O-aryl, NH<sub>2</sub>,  
NH-alkyl, N-(alkyl)<sub>2</sub>,  
NH-aryl



111

(R = H, alkyl, aryl)

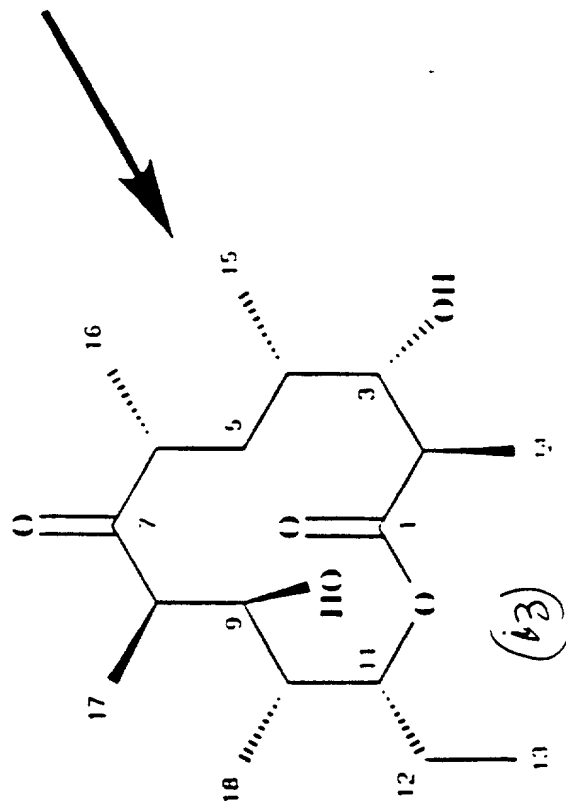
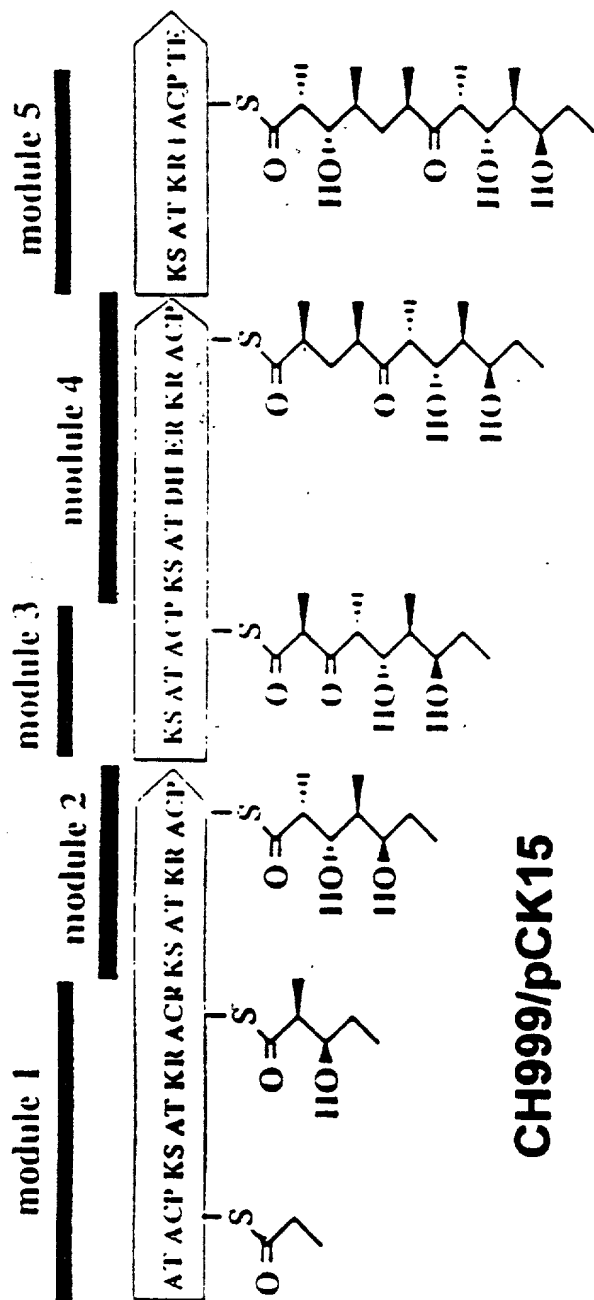


112

(R = H, alkyl, aryl)

64





R = Et

**FIGURE 7**



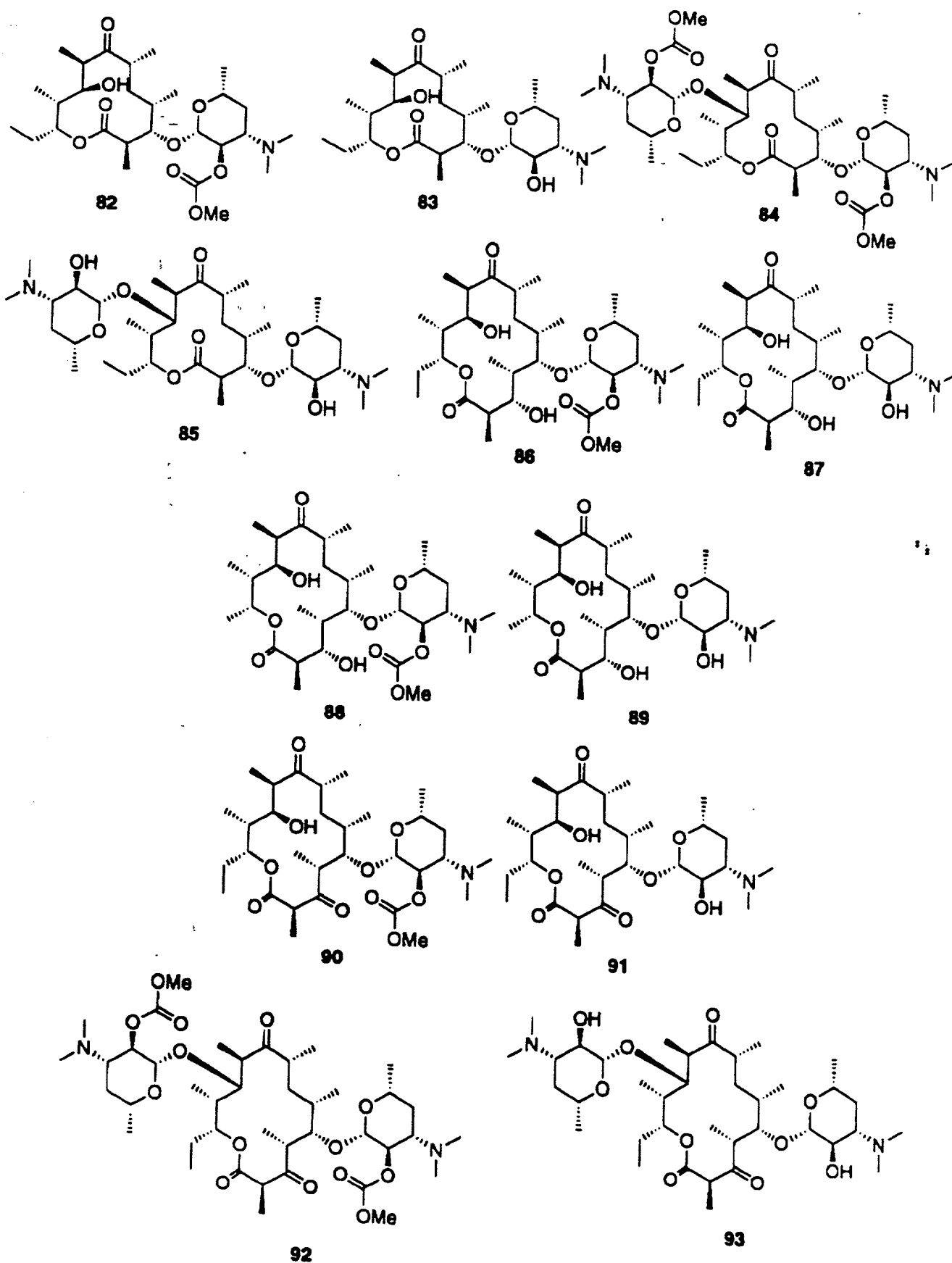
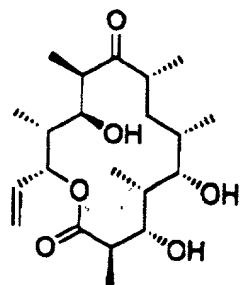
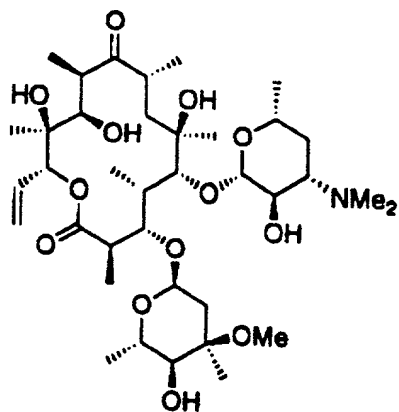


FIGURE 8



94

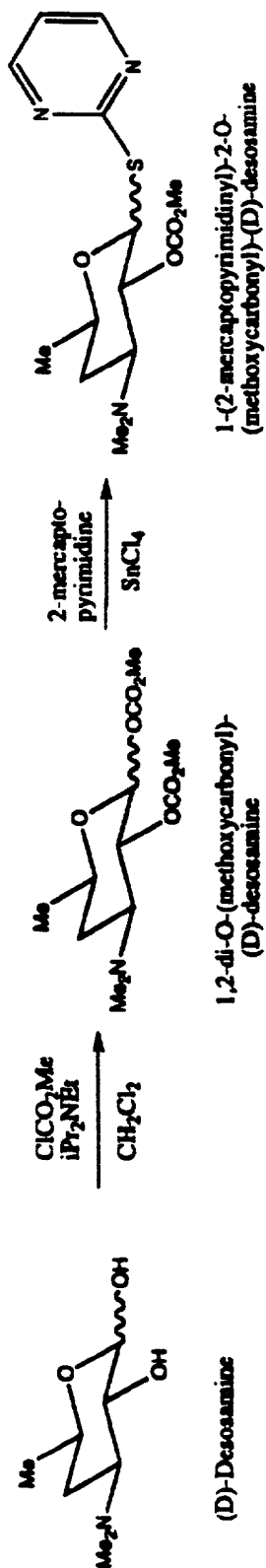


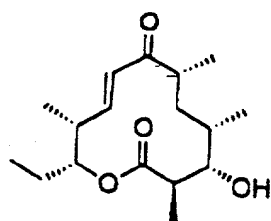
95

FIGURE 9

Figure 10

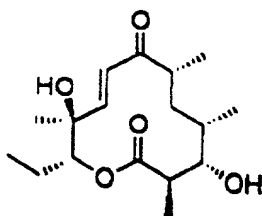
# Preparation of 1-(2-mercaptopyrimidinyl)-2-O-(methoxycarbonyl)-(D)-desosamine





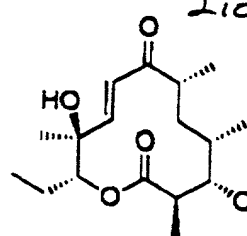
10-deoxymethynolide

210



methynolide

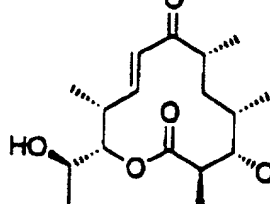
211



methymycin

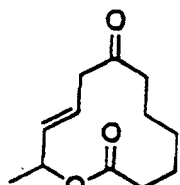
212

O-desosamine

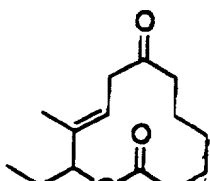


neomethymycin

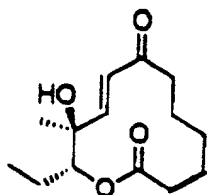
213



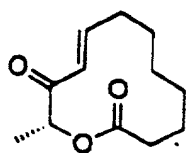
201



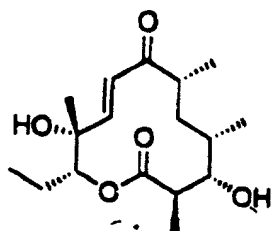
202



203

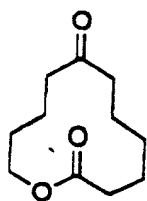


204

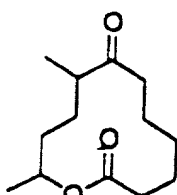


10-epi-methynolide

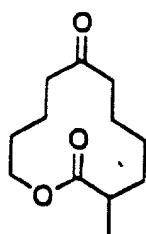
205



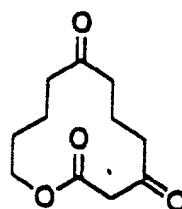
206



207

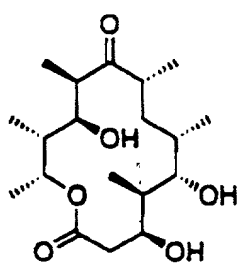


208

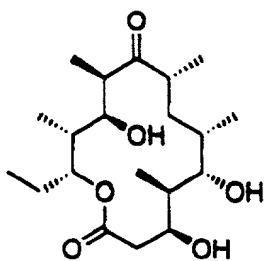


209

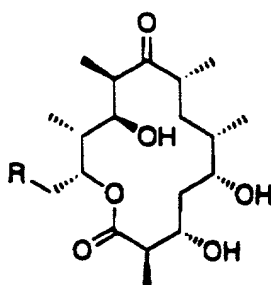
Figure 11



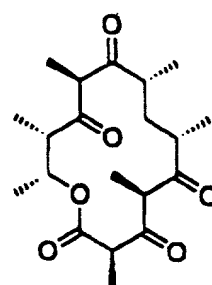
301



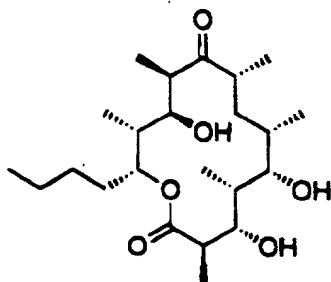
302



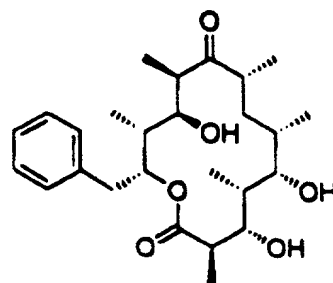
303



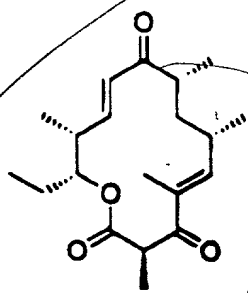
304



305

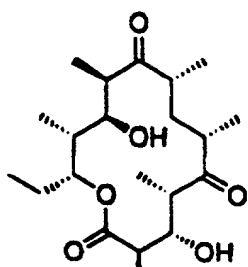


306

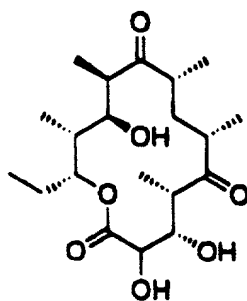


cromycin

307

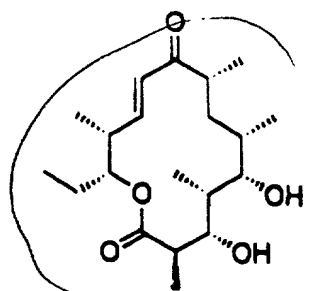


308  
5-deoxy-5-oxo-6dEB



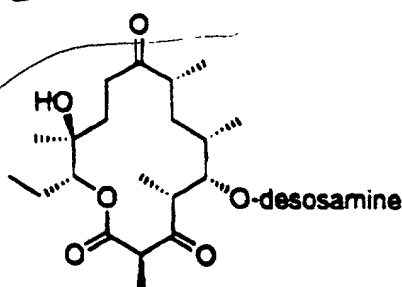
2-demethyl-2-hydroxy-  
5-deoxy-5-oxo-6dEB

309



3-dihydroarbenolide

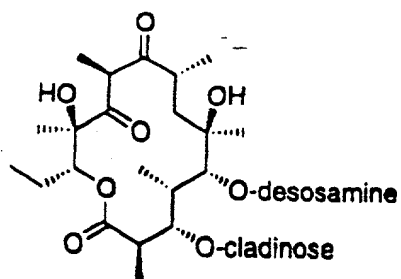
310



10,11-dihydropicromycin

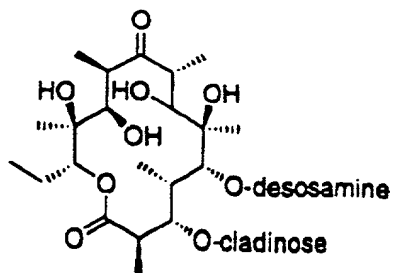
311

Figure 12 A



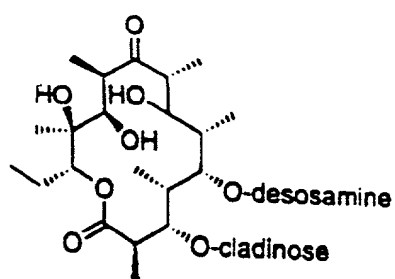
11-oxo-11-deoxyerythromycin A

312



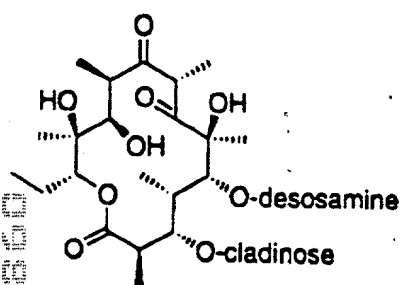
7-hydroxyerythromycin A

313



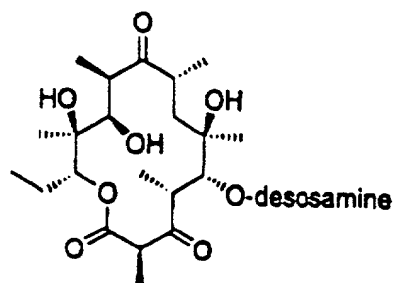
6-deoxy-7-hydroxyerythromycin A

314



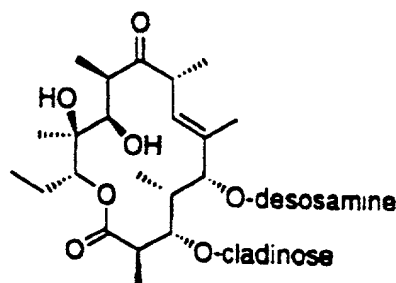
7-oxo-erythromycin A

315



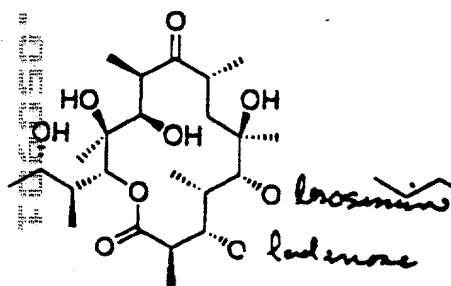
3-oxo-3-deoxy-5-desosaminyl-erythronolide A

316



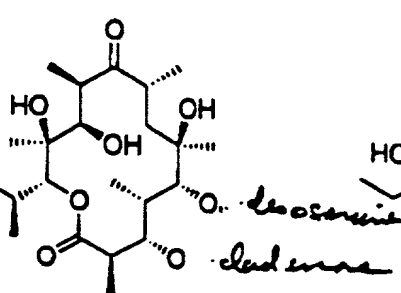
6,7-anhydro-erythromycin A

317



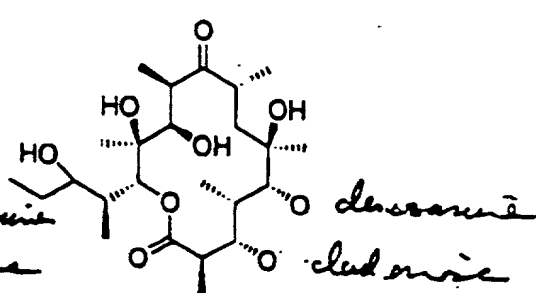
(14S,15S)-14-(1-hydroxyethyl)-erythromycin A

318



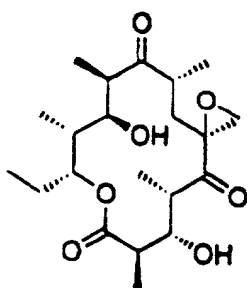
14-(1-propyl)erythromycin A

319



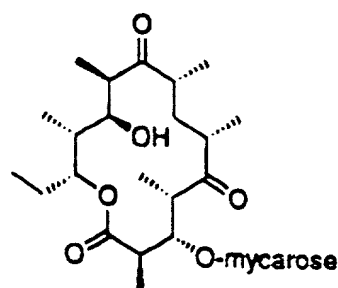
14-(1-hydroxypropyl)erythromycin A

320



5,6-dideoxy-6,6a-epoxy-5-oxo-erythronolide B

322



5,6-dideoxy-5-oxo-3-mycarosyl-erythronolide B

321